

## EAST Search History

| Ref # | Hits   | Search Query  | DBs   | Default Operator | Plurals | Time Stamp       |
|-------|--------|---|---|------------------|---------|------------------|
| L1    | 171308 | (hypertext or text) and out-link and in-link asnd cluster\$5  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | OFF     | 2007/01/26 15:30 |
| L2    | 5695   | "707"/\$.ccls. and ((hypertext or text) and out-link and in-link asnd cluster\$5)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | OFF     | 2007/01/26 15:31 |
| L3    | 171296 | hypertext and out-link and in-link asnd cluster\$5  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | OFF     | 2007/01/26 15:31 |
| L4    | 171308 | (hypertext or text) and out-link and in-link asnd cluster\$5  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | OFF     | 2007/01/26 15:32 |
| L5    | 9      | (hypertext or text) and out-link and in-link and cluster\$5   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | OFF     | 2007/01/26 15:33 |
| L6    | 6      | "707"/\$.ccls. and ( (hypertext or text) and out-link and in-link and cluster\$5)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | OFF     | 2007/01/26 15:33 |
| L7    | 3      | ( (hypertext or text) and out-link and in-link and cluster\$5) and (construct\$3 same word same dictionary)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | OFF     | 2007/01/26 15:34 |
| L8    | 3      | ( (hypertext or text) and out-link and in-link and cluster\$5) and (construct\$3 same word same dictionary) and (search\$3 or quer\$3 same "result document\$") | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR               | OFF     | 2007/01/26 15:37 |

## EAST Search History

|     |   |   |   |    |     |                  |
|-----|---|---|---|----|-----|------------------|
| L9  | 3 | "707"/\$.ccls. and ( (hypertext or text) and out-link and in-link and cluster\$5) and (construct\$3 same word same dictionary) and (search\$3 or quer\$3 same "result document\$")) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2007/01/26 15:37 |
| L10 | 1 | "715"/\$.ccls. and ( (hypertext or text) and out-link and in-link and cluster\$5) and (construct\$3 same word same dictionary) and (search\$3 or quer\$3 same "result document\$")) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2007/01/26 15:37 |
| L11 | 2 | "out-link dictionary" and "in-link dictionary"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2007/01/26 15:38 |
| L12 | 2 | ("out-link dictionary" and "in-link dictionary") near5 database\$1  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2007/01/26 15:39 |
| L13 | 2 | ( construct\$3 or build\$3 same word same dictionary) and (("out-link dictionary" and "in-link dictionary") near5 database\$1)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2007/01/26 15:41 |
| L14 | 3 | cluster\$4 and "feature vector" and (in-link or out-link)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2007/01/26 15:42 |
| L15 | 3 | cluster\$4 and "feature vectors" and (in-link or out-link)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2007/01/26 15:43 |
| L16 | 2 | cluster\$4 and "feature vectors" and ((in-link or out-link) with dictionary)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2007/01/26 16:42 |


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### 1 [Clustering hypertext with applications to web searching](#)



Dharmendra S. Modha, W. Scott Spangler

 May 2000 **Proceedings of the eleventh ACM on Hypertext and hypermedia**  
**HYPERTEXT '00**

Publisher: ACM Press

 Full text available: pdf(300.31 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** cluster annotation, feature combination, high-dimensional data, hyperlinks, sparse data, toric k-means algorithm, vector space model

### 2 [Web clustering: Evaluating contents-link coupled web page clustering for web search results](#)



Yitong Wang, Masaru Kitsuregawa

 November 2002 **Proceedings of the eleventh international conference on Information and knowledge management CIKM '02**

Publisher: ACM Press

 Full text available: pdf(316.52 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Clustering is currently one of the most crucial techniques for dealing (e.g. resources locating, information interpreting) with massive amount of heterogeneous information on the web. Unlike clustering in other fields, web page clustering separates unrelated pages and clusters related pages (to a specific topic) into semantically meaningful groups, which is useful for discrimination, summarization, organization and navigation of unstructured web pages. We have proposed a contents-link coupled cl ...

**Keywords:** anchor window, co-citation, coupling, snippet

### 3 [Document presentation: Generative semantic clustering in spatial hypertext](#)



Andriud Kerne, Eunye Koh, Vikram Sundaram, J. Michael Mistrot

 November 2005 **Proceedings of the 2005 ACM symposium on Document engineering**  
**DocEng '05**

Publisher: ACM Press

 Full text available: pdf(701.39 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper presents an iterative method for generative semantic clustering of related information elements in spatial hypertext documents. The goal is to automatically organize them in ways that are meaningful to the user. We consider a process in which elements are gradually added to a spatial hypertext. The method for generating meaningful layout is based on a quantitative model that measures and represents the mutual relatedness between each new element and those already in the document. The ...

**Keywords:** clustering, collections, document layout, generative hypermedia, information triage, mixed-initiatives, spatial hypertext

#### 4 PageCluster: Mining conceptual link hierarchies from Web log files for adaptive Web site navigation



Jianhan Zhu, Jun Hong, John G. Hughes

May 2004 **ACM Transactions on Internet Technology (TOIT)**, Volume 4 Issue 2

**Publisher:** ACM Press

Full text available: pdf(280.84 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

User traversals on hyperlinks between Web pages can reveal semantic relationships between these pages. We use user traversals on hyperlinks as weights to measure semantic relationships between Web pages. On the basis of these weights, we propose a novel method to put Web pages on a Web site onto different conceptual levels in a link hierarchy. We develop a clustering algorithm called PageCluster, which clusters conceptually-related pages on each conceptual level of the link hierarchy based on th ...

**Keywords:** Link hierarchies, Web site navigation, bibliographic analysis, clustering, conceptual link hierarchies, link similarity

#### 5 Models: A probabilistic relevance propagation model for hypertext retrieval



Azadeh Shakery, ChengXiang Zhai

November 2006 **Proceedings of the 15th ACM international conference on Information and knowledge management CIKM '06**

**Publisher:** ACM Press

Full text available: pdf(213.78 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

A major challenge in developing models for hypertext retrieval is to effectively combine content information with the link structure available in hypertext collections. Although several link-based ranking methods have been developed to improve retrieval results, none of them can fully exploit the discrimination power of contents as well as fully exploit all useful link structures. In this paper, we propose a general relevance propagation framework for combining content and link information. The ...

**Keywords:** content and link ranking, hypertext retrieval model, probabilistic relevance propagation, web information retrieval

#### 6 Enhanced hypertext categorization using hyperlinks



Soumen Chakrabarti, Byron Dom, Piotr Indyk

June 1998 **ACM SIGMOD Record , Proceedings of the 1998 ACM SIGMOD international conference on Management of data SIGMOD '98**, Volume 27 Issue 2

**Publisher:** ACM Press

Full text available: pdf(1.91 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

A major challenge in indexing unstructured hypertext databases is to automatically extract meta-data that enables structured search using topic taxonomies, circumvents keyword ambiguity, and improves the quality of search and profile-based routing and filtering. Therefore, an accurate classifier is an essential component of a hypertext database. Hyperlinks pose new problems not addressed in the extensive text classification literature. Links clearly contain high-quality semantic clues that ...

7 Links for a better web: Refinement of TF-IDF schemes for web pages using their hyperlinked neighboring pages



Kazunari Sugiyama, Kenji Hatano, Masatoshi Yoshikawa, Shunsuke Uemura

August 2003 **Proceedings of the fourteenth ACM conference on Hypertext and hypermedia HYPERTEXT '03**

**Publisher:** ACM Press

Full text available: pdf(211.25 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In IR (information retrieval) systems based on the vector space model, the TF-IDF scheme is widely used to characterize documents. However, in the case of documents with hyperlink structures such as Web pages, it is necessary to develop a technique for representing the contents of Web pages more accurately by exploiting the contents of their hyperlinked neighboring pages. In this paper, we first propose several approaches to refining the TF-IDF scheme for a target Web page by using the contents ...

**Keywords:** TF-IDF scheme, WWW, hyperlink, information retrieval

8 A survey of Web metrics



Devanshu Dhyani, Wee Keong Ng, Sourav S. Bhowmick

December 2002 **ACM Computing Surveys (CSUR)**, Volume 34 Issue 4

**Publisher:** ACM Press

Full text available: pdf(289.28 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The unabated growth and increasing significance of the World Wide Web has resulted in a flurry of research activity to improve its capacity for serving information more effectively. But at the heart of these efforts lie implicit assumptions about "quality" and "usefulness" of Web resources and services. This observation points towards measurements and models that quantify various attributes of web sites. The science of measuring all aspects of information, especially its storage and retrieval or ...

**Keywords:** Information theoretic, PageRank, Web graph, Web metrics, Web page similarity, quality metrics

9 Web 2: Building implicit links from content for forum search



Gu Xu, Wei-Ying Ma

August 2006 **Proceedings of the 29th annual international ACM SIGIR conference on Research and development in information retrieval SIGIR '06**

**Publisher:** ACM Press

Full text available: pdf(384.59 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The objective of Web forums is to create a shared space for open communications and discussions of specific topics and issues. The tremendous information behind forum sites is not fully-utilized yet. Most links between forum pages are automatically created, which means the link-based ranking algorithm cannot be applied efficiently. In this paper, we proposed a novel ranking algorithm which tries to introduce the content information into link-based methods as implicit links. The basic idea is der ...

**Keywords:** PageRank, categorization, clustering, forum search, hierarchy generation

10 HieNet: a user-centered approach for automatic link generation



Daniel T. Chang

December 1993 **Proceedings of the fifth ACM conference on Hypertext HYPERTEXT '93**

**Publisher:** ACM Press

Full text available: pdf(1.14 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** SGML, link apprentice, link generation, links, vector space model

11 Information retrieval session 7: web: Representing interests as a hyperlinked document collection



Michelle Fisher, Richard Everson

November 2003 **Proceedings of the twelfth international conference on Information and knowledge management CIKM '03**

**Publisher:** ACM Press

Full text available: pdf(111.85 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We describe a latent variable model for representing a user's interests as a hyperlinked document collection. By collecting hyper-text documents that a user views, creates or updates whilst at their computer, we are able to use not only the content of these documents but also the inter-connectivity of the collection to model the user's interests. The model uses Probabilistic Latent Semantic Analysis and Probabilistic Hypertext Induced Topic Selection and decomposes the user's document collection ...

**Keywords:** hyperlinked/hypertext document collections, information access, latent variable models, user interests

12 Position papers on MRDM: Link mining: a new data mining challenge



Lise Getoor

July 2003 **ACM SIGKDD Explorations Newsletter**, Volume 5 Issue 1

**Publisher:** ACM Press

Full text available: pdf(564.46 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

A key challenge for data mining is tackling the problem of mining richly structured datasets, where the objects are linked in some way. Links among the objects may demonstrate certain patterns, which can be helpful for many data mining tasks and are usually hard to capture with traditional statistical models. Recently there has been a surge of interest in this area, fueled largely by interest in web and hypertext mining, but also by interest in mining social networks, security and law enforcement ...

13 Data mining classification: A comparison of implicit and explicit links for web page classification



Dou Shen, Jian-Tao Sun, Qiang Yang, Zheng Chen

May 2006 **Proceedings of the 15th international conference on World Wide Web WWW '06**

**Publisher:** ACM Press

Full text available: pdf(178.27 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

It is well known that Web-page classification can be enhanced by using hyperlinks that

provide linkages between Web pages. However, in the Web space, hyperlinks are usually sparse, noisy and thus in many situations can only provide limited help in classification. In this paper, we extend the concept of linkages from explicit hyperlinks to implicit links built between Web pages. By observing that people who search the Web with the same queries often click on different, but related documents to get ...

**Keywords:** explicit link, implicit link, query log, virtual document, web page classification

14 Utilizing hyperlink transitivity to improve web page clustering

Jingyu Hou, Yanchun Zhang

January 2003 **Proceedings of the 14th Australasian database conference - Volume 17 ADC '03**

**Publisher:** Australian Computer Society, Inc.

Full text available:  pdf(104.31 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The rapid increase of web complexity and size makes web searched results far from satisfaction in many cases due to a huge amount of information returned by search engines. How to find intrinsic relationships among the web pages at a higher level to implement efficient web searched information management and retrieval is becoming a challenge problem. In this paper, we propose an approach to measure web page similarity. This approach takes hyperlink transitivity and page importance into consideration ...

**Keywords:** hyperlink analysis, web clustering, web page similarity, world wide web


15 Narratives and Literary Hypertext: Reading and writing fluid Hypertext Narratives



Polle T. Zellweger, Anne Mangen, Paula Newman

June 2002 **Proceedings of the thirteenth ACM conference on Hypertext and hypermedia HYPERTEXT '02**

**Publisher:** ACM Press

Full text available:  pdf(417.30 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

We describe a new way to present and author hypertext narratives. The Fluid Reader constructs a unified interactive text from the content of multiple nodes and allows a reader to explore alternative paths within it. The Fluid Reader has been available as a hands-on museum exhibit for nearly a year to date, where it has been enjoyed by readers of all ages. Its success has prompted further interest and development in Fluid hypertexts. We have designed and implemented an authoring tool called the F ...

**Keywords:** authoring, fluid documents, fluid hypertext, fluid reader, fluid writer, hypertext narrative, stretchtext, treetable, visualization

16 Content 2: image clustering: Iteratively clustering web images based on link and attribute reinforcements



Xin-Jing Wang, Wei-Ying Ma, Lei Zhang, Xing Li

November 2005 **Proceedings of the 13th annual ACM international conference on Multimedia MULTIMEDIA '05**

**Publisher:** ACM Press

Full text available:  pdf(248.02 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Image clustering is an important research topic which contributes to a wide range of

applications. Traditional image clustering approaches are based on image content features only, while content features alone can hardly describe the semantics of the images. In the context of Web, images are no longer assumed homogeneous and "flatdistributed but are richly structured. There are two kinds of reinforcements embedded in such data: 1) the reinforcement between attributes of different data types (int ...

**Keywords:** image clustering, iterative reinforcement, link mining

17 Links for a better web: Link analysis for collaborative knowledge building

 Harris Wu, Michael D. Gordon, Kurt DeMaagd, Nathan Bos  
August 2003 **Proceedings of the fourteenth ACM conference on Hypertext and hypermedia HYPERTEXT '03**

**Publisher:** ACM Press

Full text available:  pdf(144.66 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present an ongoing research project utilizing navigation and hyperlink data to aid collaborative knowledge building. We allow collaborators to personally organize documents and other research resources and make references to them. We combine their personal organizations and references to develop a unified, hierarchical categorization of these resources. We analyze collaborators' navigations to identify prominent research activities as well as the key documents related to these activities. We ...

**Keywords:** knowledge management, link analysis, navigation analysis

18 Constructing, organizing, and visualizing collections of topically related Web resources

 Loren Terveen, Will Hill, Brian Amento  
March 1999 **ACM Transactions on Computer-Human Interaction (TOCHI)**, Volume 6 Issue 1

**Publisher:** ACM Press

Full text available:  pdf(303.62 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

For many purposes, the Web page is too small a unit of interaction and analysis. Web sites are structured multimedia documents consisting of many pages, and users often are interested in obtaining and evaluating entire collections of topically related sites. Once such a collection is obtained, users face the challenge of exploring, comprehending and organizing the items. We report four innovations that address these user needs: (1) we replaced the Web page with the Web site

**Keywords:** cocitation analysis, collaborative filtering, computer supported cooperative work, information visualization, social filtering, social network analysis

19 Organizing topic-specific web information

 Sougata Mukherjea  
May 2000 **Proceedings of the eleventh ACM on Hypertext and hypermedia HYPERTEXT '00**

**Publisher:** ACM Press

Full text available:  pdf(183.02 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** World-Wide Web, abstraction hierarchy, graph algorithms, information visualization, topic management



20 Special issue on ICML: Learning probabilistic models of link structure

Lisa Getoor, Nir Friedman, Daphne Koller, Benjamin Taskar

March 2003 **The Journal of Machine Learning Research**, Volume 3

**Publisher:** MIT Press

Full text available:  pdf(479.67 KB) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

Most real-world data is heterogeneous and richly interconnected. Examples include the Web, hypertext, bibliometric data and social networks. In contrast, most statistical learning methods work with "flat" data representations, forcing us to convert our data into a form that loses much of the link structure. The recently introduced framework of *probabilistic relational models* (PRMs) embraces the object-relational nature of structured data by capturing probabilistic interactions between att ...

Results 1 - 20 of 41

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| S7  | 11950  | S3 OR S6  |
| S8  | 0      | S7 AND S5   |
| S9  | 12     | S5 AND CLUSTER?   |
| S10 | 9      | RD (unique items)   |
| S11 | 666    | S7 AND SIMILAR?   |
| S12 | 27     | S11 AND WEIGHT?   |
| S13 | 21     | RD (unique items)   |

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**Title: Design driven partitioning**

Author: Behrens, Dirk; Barke, Erich; Tolkiehn, Robert

Corporate Source: Univ of Hanover, Hanover, Ger

Conference Title: Proceedings of the 1997 Asia and South Pacific Design Automation Conference, ASP-DAC

Conference Location: Chiba, Jpn Conference Date: 19970128-19970131

Sponsor: IEICE; IPSJ; ACM SIGDA; IEEE

E.I. Conference No.: 46576

Source: Proceedings of the Asia and South Pacific Design Automation Conference, ASP-DAC 1997. IEEE, Piscataway, NJ, USA. p 49-55

Publication Year: 1997

CODEN: 002615

Language: English

Document Type: CA; (Conference Article) Treatment: T; (Theoretical)

Journal Announcement: 9708W4

**Abstract:** A new approach for partitioning VLSI digital integrated circuits is presented. In contrast to known approaches, which use only topological information, the presented method also exploits specific information about design modules and higher level design structure. Based on this knowledge, the design driven procedure creates a **cluster** structure that incorporates the inherent design relationships (e.g. signal flow, logic blocks) in the best way possible. Followed by standard iterative improvement algorithms partitions are produced that outperform many partitioning approaches published before. Because of its **linear time complexity** the presented **clustering** strategy is able to handle very large designs. Due to its modular structure it can be easily extended to incorporate special design features or target architectures such as emulation systems. (Author abstract) 34 Refs.

**Descriptors:** \*VLSI circuits; Linear network analysis; Semiconductor device structures; Standards; Algorithms; Computer simulation; Digital integrated circuits; Iterative methods

**Identifiers:** Circuit partitioning

**Classification Codes:**

703.1.1 (Electric Network Analysis)

714.2 (Semiconductor Devices & Integrated Circuits); 703.1 (Electric Networks); 902.2 (Codes & Standards); 723.5 (Computer Applications); 921.6 (Numerical Methods)

714 (Electronic Components); 703 (Electric Circuits); 902 (Engineering Graphics & Standards); 723 (Computer Software); 921 (Applied Mathematics)

71 (ELECTRONICS & COMMUNICATIONS); 70 (ELECTRICAL ENGINEERING); 90 (GENERAL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

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04508346 E.I. No: EIP96093341263

**Title: Simple eigenvector-based circuit clustering can be effective**

Author: Alpert, Charles J.; Kahng, Andrew B.

Corporate Source: UCLA Computer Science Dep, Los Angeles, CA, USA

Conference Title: Proceedings of the 1996 IEEE International Symposium on Circuits and Systems, ISCAS. Part 4 (of 4)

Conference Location: Atlanta, GA, USA Conference Date: 19960512-19960515

Sponsor: IEEE

E.I. Conference No.: 45321

Source: Circuits and Systems Connecting the World Proceedings - IEEE International Symposium on Circuits and Systems v 4 1996. IEEE, Piscataway, NJ, USA, 96CB35876. p 683-686

Publication Year: 1996

CODEN: PICSDI ISSN: 0271-4310

Language: English

Document Type: CA; (Conference Article) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 9611W3

Abstract: **Clustering** has proven effective in improving the quality of VLSI netlist partitioning and placement algorithms. A wide variety of **clustering** schemes have been proposed, including random walks left bracket 13 right bracket , iterative matching left bracket 7 right bracket , and fairly complicated spectral techniques left bracket 1 right bracket left bracket 8 right bracket . Like left bracket 1 right bracket and left bracket 8 right bracket , we use eigenvectors to compute a **clustering** , but do so in the simplest, most obvious manner. Our algorithm first computes a d-digit code for each module  $v/i$  according to the signs of the  $i^{th}$  entries in a set of d eigenvectors. Then, modules with the same code are assigned to the same **cluster** . Despite its simplicity, this new **clustering** algorithm is strongly motivated by theoretical results for both spectral bipartitioning left bracket 6 right bracket and multi-dimensional vector partitioning left bracket 4 right bracket . The algorithm also has **linear time complexity** (not including the eigenvector computation) and is at least as effective as previous **clustering** algorithms in terms of two-phase Fiduccia-Mattheyses bipartitioning. (Author abstract) 21 Refs.

Descriptors: \*Circuit theory; Eigenvalues and eigenfunctions; Vectors; VLSI circuits; Algorithms; Random processes; Iterative methods; Spectrum analysis; Computational methods; Codes (symbols)

Identifiers: Eigenvector based circuit **clustering** ; VLSI netlist partitioning; Placement algorithms; Random walks; Spectral bipartitioning; Multi dimensional vector partitioning; Two phase Fiduccia-Mattheyses bipartitioning

Classification Codes:

703.1 (Electric Networks); 921.1 (Algebra); 714.2 (Semiconductor Devices & Integrated Circuits); 921.6 (Numerical Methods); 922.1 (Probability Theory)

703 (Electric Circuits); 921 (Applied Mathematics); 714 (Electronic Components); 922 (Statistical Methods)

70 (ELECTRICAL ENGINEERING); 92 (ENGINEERING MATHEMATICS); 71 (ELECTRONICS & COMMUNICATIONS)

10/5/3 (Item 3 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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03000484 E.I. Monthly No: EIM9012-050393

Title: Clustering **task graphs for message passing architectures**.

Author: Gerasoulis, Apostolos; Venugopal, Sesh; Yang, Tao

Corporate Source: Rutgers Univ, New Brunswick, NJ, USA

Conference Title: 1990 ACM International Conference on Supercomputing

Conference Location: Amsterdam, Neth Conference Date: 19900611

E.I. Conference No.: 13610

Source: 1990 ACM Int Conf Supercond. Publ by ACM, New York, NY, USA. p 447-456

Publication Year: 1990

Language: English

Document Type: PA; (Conference Paper) Treatment: A; (Applications); T;

(Theoretical)

Journal Announcement: 9012

Abstract: **Clustering** is a mapping of the nodes of a task graph onto labeled **clusters**. We present a unified framework for **clustering** of directed acyclic graphs (DAGs). Several **clustering** algorithms from the literature are compared using this framework. For coarse grain DAGs two interesting properties are presented. For every nonlinear **clustering** there exists a linear **clustering** whose parallel time is less than the nonlinear one. Furthermore, the parallel time of any linear **clustering** is within a factor of two of the optimal. Two **clustering** algorithms are presented with near **linear time complexity** for coarse grain DAGs. The conclusion is that linear **clustering** is an efficient and accurate operation. (Author abstract) 23 Refs.

Descriptors: \*COMPUTER SYSTEMS, DIGITAL--\*Parallel Processing; COMPUTER ARCHITECTURE

Identifiers: **CLUSTERING** ALGORITHMS; MESSAGE PASSING ARCHITECTURES

Classification Codes:

722 (Computer Hardware); 723 (Computer Software)

72 (COMPUTERS & DATA PROCESSING)

10/5/4 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

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6714728 INSPEC Abstract Number: B2000-11-6135-034, C2000-11-5260B-037

**Title: Motion vector interpolation using wavelets**

Author(s): Srinivasan, S.H.; Padmashree, P.; Ramakrishnan, K.R.

Author Affiliation: Inst. of Robotics & Intelligent Syst., Bangalore, India

Conference Title: International Conference on Visual Computing (ICVC99) Proceedings of IFIP TC5/WG5.10 and CSI p.178-86

Editor(s): Mudur, S.P.; Shikhare, D.; Encarnacao, J.L.; Rossignac, J.

Publisher: Kluwer Academic Publishers, Norwell, MA, USA

Publication Date: 1999 Country of Publication: USA ix+317 pp.

Material Identity Number: XX-1999-00804

Conference Title: Proceedings of International Conference on Visual Computing

Conference Date: 23-26 Feb. 1999 Conference Location: Goa, India

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Theoretical (T)

Abstract: Motion vectors constitute an important feature for object segmentation algorithms. In MPEG, we have motion vectors defined at the macro-block level. In order to obtain realistic object boundaries, we need to obtain the motion vectors at the pixel level. In other words, we need to interpolate the MPEG motion vectors from the block level to the pixel level. There are conflicting requirements on the interpolation scheme: (1) the scheme used should interpolate smoothly, but (2) it should also preserve discontinuities in order to ensure realistic segmentation. The well-known linear interpolation of motion vectors smoothes discontinuities in the motion field. The wavelet interpolation scheme (Pentland, 1994) which meets these twin objectives is considered in this paper for motion vectors. This algorithm also has other good properties: it regularizes the interpolation operator and it runs in linear  $O(n)$  time. We **cluster** the interpolated motion vectors to obtain object boundaries. We compare the results of object segmentation obtained using wavelet interpolation with those obtained using linear interpolation. The object boundaries obtained using wavelet interpolation are closer to real object boundaries, as expected. (10 Refs)

Subfile: B C

Descriptors: computational complexity; image segmentation; interpolation; mathematical operators; motion estimation; vectors; video coding; wavelet transforms

Identifiers: motion vector interpolation; wavelet interpolation scheme; object segmentation algorithms; MPEG; macro-block definition; realistic object boundaries; pixel-level definition; smooth interpolation; discontinuity preservation; linear interpolation; interpolation operator regularization; **linear time complexity**; vector **clustering**; object boundaries

Class Codes: B6135 (Optical, image and video signal processing); B0290F (Interpolation and function approximation (numerical analysis)); B0290X (Integral transforms in numerical analysis); C5260B (Computer vision and image processing techniques); C4130 (Interpolation and function approximation (numerical analysis)); C4188 (Integral transforms in numerical analysis); C5260D (Video signal processing); C4240C (Computational complexity)

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10/5/5 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

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6629219 INSPEC Abstract Number: B2000-08-1130B-006, C2000-08-5210B-018

Title: Improving the schedule quality of static-list time-constrained scheduling

Author(s): Govindarajan, S.; Vemari, R.

Author Affiliation: Dept. of Electr. & Comput. Eng., Cincinnati Univ., OH, USA

Conference Title: Proceedings Design, Automation and Test in Europe Conference and Exhibition 2000 (Cat. No. PR00537) p.749

Editor(s): Marwedel, P.; Bolsens, I.

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 2000 Country of Publication: USA xxxiv+770 pp.

ISBN: 0 7695 0537 6 Material Identity Number: XX-2000-00235

U.S. Copyright Clearance Center Code: 0 7695 0537 6/2000/\$10.00

Conference Title: Proceedings of Meeting on Design Automation and Test in Europe

Conference Sponsor: EDAA; EDAC; IEEE Comput. Soc. - TTTC; IEEE Comput. Soc. - DATC; ECSI; IFIP 10.5; Russian Acad. Sci.; IPPM; ACM-SIGDA; AEIA; ATI; CLRC; CNR; Estonian E Soc.; GI; GMM; HTE; OTG; KVIV

Conference Date: 27-30 March 2000 Conference Location: Paris, France

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T)

Abstract: Summary form only given. The most compelling reason for High-Level Synthesis (HLS) to be accepted in the state-of-the-art CAD flow is its ability to perform design space exploration. Design space exploration requires efficient scheduling techniques that have a low complexity and yet produce good quality schedules. The Time-Constrained Scheduling (TCS) problem minimizes the number of functional units required to schedule a particular Data Flow Graph (DFG) within a specified number of time steps. Over the past few years a number of techniques have been proposed to solve the TCS problem. Heuristic list scheduling algorithms have been widely used for their low-complexity and good performance. The complexity of a dynamic-list scheduling algorithm, such as the Force Directed Scheduling (FDS), is  $\Theta(T^2N)$ , where  $T$  is the time constraint and  $N$  is the number of operations. Static-list scheduling algorithms are the least complex among the known class of scheduling techniques with a **linear time complexity** of  $\Theta(TN)$ . Typically, static-list scheduling algorithms, in order to maintain low-complexity, do not perform any look-ahead like that of FDS. The drawback is that,

static-list scheduling algorithms may not generate high-quality schedules. However, the proposed static-list algorithm presented here incorporates a novel topological **clustering** technique which acts as the look-ahead mechanism without any computational overhead. (5 Refs)

Subfile: B C

Descriptors: computational complexity; data flow graphs; high level synthesis; scheduling

Identifiers: schedule quality improvement; static-list time-constrained scheduling; high-level synthesis; HLS; CAD; design space exploration; low complexity; data flow graph; DFG; **linear time complexity**; high-quality schedules; topological **clustering** technique; look-ahead mechanism

Class Codes: B1130B (Computer-aided circuit analysis and design); B1265A (Digital circuit design, modelling and testing); B0250 (Combinatorial mathematics); C5210B (Computer-aided logic design); C7410D (Electronic engineering computing); C4240C (Computational complexity); C1160 (Combinatorial mathematics)

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10/5/6 (Item 1 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
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05654715 Genuine Article#: WN775 Number of References: 24

Title: **Fuzzy Bi- and multi-partitioning for circuits represented by hypergraphs**

Author(s): Ball CF (REPRINT) ; Mlynski DA

Corporate Source: UNIV KARLSRUHE, INST THEORET ELEKTROTECH & MESSTECH, KAISERSTR 12/D-76128 KARLSRUHE//GERMANY/ (REPRINT)

Journal: JOURNAL OF CIRCUITS SYSTEMS AND COMPUTERS, 1996, V6, N5 (OCT), P 503-526

ISSN: 0218-1266 Publication date: 19961000

Publisher: WORLD SCIENTIFIC PUBL CO PTE LTD, JOURNAL DEPT PO BOX 128 FARRER ROAD, SINGAPORE 9128, SINGAPORE

Language: English Document Type: ARTICLE

Geographic Location: GERMANY

Subfile: CC ENGI--Current Contents, Engineering, Computing & Technology

Journal Subject Category: ENGINEERING, ELECTRICAL & ELECTRONIC; COMPUTER SCIENCE, HARDWARE & ARCHITECTURE

Abstract: A new strategy for partitioning hypergraphs in complex LSI and VLSI circuits is presented. A new fuzzy net-cut model has been developed to treat multi-pin-nets without splitting into two-pin-nets. The combinatorial optimization algorithm is derived from statistical physics. The circuit graph is modeled as a highly coupled spin system and the mean field approximation is used to achieve **linear time complexity**. Fuzzy partitioning enables a qualitative and macroscopic approach by interpreting the mean values of the spin system as fuzzy membership degrees. The proposed strategy is tested with MCNC benchmark problems and compared to results achieved recently. The performance of the new algorithm is comparable with neural networks and simulated annealing, but much faster, because of its **linear time complexity**. Furthermore, the partitioning algorithm has been implemented in an industrial CAD design tool and results are given.

Identifiers--KeyWord Plus(R): OPTIMIZATION

Research Fronts: 95-0851 002 (NEURAL NETWORKS; HOPFIELD MODEL; MAPPING COMBINATORIAL OPTIMIZATION PROBLEMS)

95-3985 002 (SIMULATED ANNEALING; COMPUTER-AIDED PART PROGRAM

OPTIMIZATION OF MULTICOMPONENT PALLET RESIDENCE TIME; GENETIC ALGORITHM FOR WAVELENGTH SELECTION)



95-2621 001 (FUZZY CLUSTERING ; CODEBOOK DESIGN IN VECTOR  
QUANTIZATION; ARTIFICIAL NEURAL NETWORKS)

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10/5/7 (Item 2 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
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01292644 Genuine Article#: GM033 Number of References: 92

Title: **DATA-STRUCTURES AND ALGORITHMS FOR DISJOINT SET UNION PROBLEMS**

Author(s): GALIL Z; ITALIANO GF

Corporate Source: COLUMBIA UNIV,DEPT COMP SCI/NEW YORK//NY/10027; TEL AVIV  
UNIV,DEPT COMP SCI/IL-69978 TEL AVIV//ISRAEL/; UNIV ROME LA  
SAPIENZA,DIPARTIMENTO INFORMAT & SISTEMIST/I-00185 ROME//ITALY/

Journal: COMPUTING SURVEYS, 1991, V23, N3, P319-344

Language: ENGLISH Document Type: ARTICLE

Geographic Location: USA; ISRAEL; ITALY

Subfile: SciSearch; CC ENGI--Current Contents, Engineering, Technology &  
Applied Sciences

Journal Subject Category: COMPUTER APPLICATIONS & CYBERNETICS

Abstract: This paper surveys algorithmic techniques and data structures  
that have been proposed to solve the set union problem and its  
variants. The discovery of these data structures required a new set of  
algorithmic tools that have proved useful in other areas. Special  
attention is devoted to recent extensions of the original set union  
problem, and an attempt is made to provide a unifying theoretical  
framework for this growing body of algorithms.

Descriptors--Author Keywords: EQUIVALENCE ALGORITHM; PARTITION; SET UNION;  
TIME COMPLEXITY

Identifiers--KeyWords Plus: REPRESENTING SORTED LISTS; WORST-CASE ANALYSIS;  
PATH COMPRESSION; **LINEAR - TIME ; COMPLEXITY ; BACKTRACKING;**  
SEQUENCES

Research Fronts: 89-0548 002 (DYNAMIC PLANAR POINT LOCATION; GEODESIC  
VORONOI DIAGRAM; **CLUSTER** SET OF THE LIL SEQUENCE; SIMPLE POLYGONS;  
HIERARCHICAL REPRESENTATIONS)

89-2696 002 (BINARY MATROIDS; MAXIMUM FLOW PROBLEM; FAST TIME SLOT

KRUSKAL JB, 1956, V7, P48, P AM MATH SOC  
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10/5/8 (Item 1 from file: 99)

DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs  
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1464839 H.W. WILSON RECORD NUMBER: BAST97011106

**An efficient topological characterization of gray-levels textures, using a  
 multiresolution representation**

Pikaz, Arie; Averbuch, Amir

Graphical Models and Image Processing v. 59 (Jan. '97) p. 1-17

DOCUMENT TYPE: Feature Article ISSN: 1077-3169 LANGUAGE: English

RECORD STATUS: Corrected or revised record

ABSTRACT: The authors report a new method for texture characterization,  
 which is based on topological properties at different gray levels and  
 different resolutions. Called multiresolution **clusters** graphs (MRCG),  
 the sequence is computed in almost **linear time complexity** using only  
 integer arithmetic. The properties of the MRCG as a texture characterizer  
 are analyzed and demonstrated.

DESCRIPTORS: Gray scale images; Image texture analysis;

10/5/9 (Item 1 from file: 239)  
DIALOG(R)File 239:Mathsci  
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01906482 MR 86d#68065

**Complexity, convexity, and unimodality.**

Toussaint, Godfried T. (School of Computer Science, McGill University,  
Montreal, H3A 2T5, Quebec, Canada)

Corporate Source Codes: 3-MGL-C

Internat. J. Comput. Inform. Sci.

International Journal of Computer and Information Sciences, 1984, 13,  
no. 3, 197--217. ISSN: 0091-7036 CODEN: IJCIAH

Language: English

Document Type: Journal

Journal Announcement: 1708

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: MEDIUM (18 lines)

Author summary: ``A class of polygons termed unimodal is introduced. Let  $P = p_1, p_2, \dots, p_n$  be a simple  $n$ -vertex polygon. Given a fixed vertex or edge, several definitions of the distance between the fixed vertex or edge and any other vertex or edge are considered. For a fixed vertex [edge], a distance measure defines a distance function as the remaining vectors [edges] are traversed in order. If for every vertex [edge] of  $P$  a specified distance function is unimodal, then  $P$  is a unimodal polygon in the corresponding sense. Relationships between unimodal polygons, in several senses, and convex polygons are established. Several properties are derived for unimodal polygons when the distance measure is the Euclidean distance between vertices of the polygons. These properties lead to very simple  $O(n)$  algorithms for solving a variety of problems that occur in computational geometry and pattern recognition. Furthermore, these algorithms establish that convexity is not the key factor in obtaining linear time complexity for solving these problems. The paper closes with several open questions in this area.''

Reviewer: Summary

Review Type: Abstract

Descriptors: \*68U05 -Computer science (For papers involving machine computations and programs in a specific mathematical area, see section --04 in that area)-Computing methodologies-Computer graphics; computational geometry ; 52-04 -Convex sets and related geometric topics-Explicit machine computation and programs (not the theory of computation or programming); 52A10 -Convex sets and related geometric topics-Convex sets in  $2$  dimensions; 68T10 -Computer science (For papers involving machine computations and programs in a specific mathematical area, see section --04 in that area)-Artificial intelligence-Pattern recognition, speech recognition (For cluster analysis, see 62H30)

File 348:EUROPEAN PATENTS 1978-2003/Mar W03

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File 349:PCT FULLTEXT 1979-2002/UB=20030320,UT=20030313

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| Set | Items  | Description   |
|-----|--------|---|
| S1  | 10056  | (HYPERTEXT? OR HTML OR HYPERMEDIA OR HYPERLINK??)(5N)(DOCUMENT? ? OR PAGE? ? OR FILE? ? OR RECORD? ? OR DATA OR INFORMATION OR CONTENT OR SITE? ?)  |
| S2  | 25181  | WEBPAGE? ? OR WEBSITE? ? OR (WEB OR INTERNET OR ONLINE OR - ON())LINE OR NETWORK? ? OR DISTRIBUTED)(2N)(PAGE? ? OR SITE? ?)   |
| S3  | 3768   | S1:S2(5N)(CATEGOR??? OR GROUP??? OR SET? ? OR CLUSTER? OR - COLLECTION? ? OR FAMILY OR CLASS OR CLASSES OR BUNCH???)  |
| S4  | 200554 | (DOCUMENT? ? OR PAGE? ? OR FILE? ? OR RECORD? ? OR DATA OR INFORMATION OR CONTENT OR SITE? ? OR PAGE? ? OR SITE? ?)(5N)(- CATEGOR??? OR GROUP??? OR SET? ? OR CLUSTER? OR COLLECTION? ? OR FAMILY OR FAMILIES OR CLASS OR CLASSES OR BUNCH??) |
| S5  | 7      | LINEAR()TIME()COMPLEXIT???  |
| S6  | 6295   | S4(S)S1:S2  |
| S7  | 74     | (S3 OR S6)(S)SIMILARIT???   |
| S8  | 23     | S7(S)WEIGHT?  |
| S9  | 51     | S7 NOT S8   |
| S10 | 24     | S9 AND IC=G06F  |
| S11 | 6310   | (DOCUMENT? ? OR PAGE? ? OR FILE? ? OR RECORD? ? OR DATA OR INFORMATION OR CONTENT OR SITE? ? OR PAGE? ? OR SITE? ?)(5N)(- CATEGOR??? OR GROUP??? OR SET? ? OR CLUSTER? OR COLLECTION? ? OR BUNCH??)(5N)SIMILAR?                               |
| S12 | 86     | S3(S)S11 AND IC=G06F  |
| S13 | 80     | S12 NOT (S8 OR S10)   |
| S14 | 137    | S6(S)S11 AND IC=G06F  |
| S15 | 58     | S14 NOT (S7 OR S13)   |

5/5,K/1 (Item 1 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
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01552372

**Text-based automatic content classification and grouping**  
**Automatische textbasierte Inhaltsklassifikation und -gruppierung**  
**Groupement et classement automatique de contenu textuel**

PATENT ASSIGNEE:

SIEMENS CORPORATE RESEARCH, INC., (1621440), 755 College Road East,  
Princeton, New Jersey 08540, (US), (Applicant designated States: all)

INVENTOR:

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LEGAL REPRESENTATIVE:

Wilding, Frances Ward (93561), Haseltine Lake & Co Imperial House 15-19  
Kingsway, London WC2B 6UD, (GB)

PATENT (CC, No, Kind, Date): EP 1291790 A2 030312 (Basic)

APPLICATION (CC, No, Date): EP 2002255600 020809;

PRIORITY (CC, No, Date): US 312437 010815; US 949868 010910

DESIGNATED STATES: AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR;  
IE; IT; LI; LU; MC; NL; PT; SE; SK; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G06F-017/30

ABSTRACT EP 1291790 A2

A closed-caption (101), is passed to a natural language analysis tool (102). Noun phrases and proper nouns in closed-captions are extracted and saved in a file (103). The noun phrase file is passed to a word-code translation tool (104) and each different word is assigned a unique code from a dictionary. The output (105) of the word-code translation tool (104) provides source data for story classification (110) and grouping (114). For story classification (110), training (107) and testing (111) examples are generated by another tool (106). A story classification knowledge network (109) is generated from training examples (107) input to the training module and modified thereafter for each new story. Class prediction (112) and knowledge base modification can be realized interactively on a news organizer platform. Relevant story grouping (114) takes a story location (105) and corresponding story grouping files (113) and determines a group (115) for the new story.

ABSTRACT WORD COUNT: 151

NOTE:

Figure number on first page: 1

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 030312 A2 Published application without search report  
LANGUAGE (Publication,Procedural,Application): English; English; English  
FULLTEXT AVAILABILITY:

| Available Text                     | Language  | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A                           | (English) | 200311 | 622        |
| SPEC A                             | (English) | 200311 | 5685       |
| Total word count - document A      |           |        | 6307       |
| Total word count - document B      |           |        | 0          |
| Total word count - documents A + B |           |        | 6307       |

...SPECIFICATION work needed in the classification is the knowledge base file reading and one round of the knowledge base scan, both of which only impose a **linear time complexity** to the size of the training examples.

The time complexity for the relevant story-grouping method can be

difficult to estimate. However, since the number...

5/5,K/2 (Item 2 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
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01262272

Method and apparatus for efficient network management using an active network mechanism

Verfahren und Vorrichtung zur effizienten Netzwerkverwaltung durch einen aktiven Netzwerkmechanismus

Methode et dispositif pour une gestion efficace de reseau en utilisant un mecanisme actif de reseau

PATENT ASSIGNEE:

LUCENT TECHNOLOGIES INC., (2143720), 600 Mountain Avenue, Murray Hill, New Jersey 07974-0636, (US), (Applicant designated States: all)

INVENTOR:

Raz, Danny, 28 Intone Lane, Aberdeen, New Jersey 07747, (US)  
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LEGAL REPRESENTATIVE:

Watts, Christopher Malcolm Kelway, Dr. et al (37391), Lucent Technologies (UK) Ltd, 5 Mornington Road, Woodford Green Essex, IG8 0TU, (GB)

PATENT (CC, No, Kind, Date): EP 1089491 A2 010404 (Basic)

APPLICATION (CC, No, Date): EP 308135 000918;

PRIORITY (CC, No, Date): US 409153 990930

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: H04L-012/24

ABSTRACT EP 1089491 A2

A distributed network management function is implemented in a computer network using a set of active nodes. Each of the active nodes comprises a router and a logically-separate active engine. The router in a given one of the active nodes diverts active packets associated with the network management function to the corresponding active engine for processing. The active engine supports one or more sessions, based at least in part on the active packets, for implementing at least a portion of the network management function. Each of the sessions supported by the active engine corresponds to a particular distributed task to be performed in the network, and has associated therewith a unique network identifier, such that different programs on different network nodes can belong to the same session. The router and active engine at a given one of the nodes may reside on the same machine, or on physically-separate machines.

ABSTRACT WORD COUNT: 150

NOTE:

Figure number on first page: 1

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 010404 A2 Published application without search report

Change: 010516 A2 Inventor information changed: 20010329

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

| Available Text                     | Language  | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A                           | (English) | 200114 | 783        |
| SPEC A                             | (English) | 200114 | 6810       |
| Total word count - document A      |           |        | 7593       |
| Total word count - document B      |           |        | 0          |
| Total word count - documents A + B |           |        | 7593       |

...SPECIFICATION can be taken in intermediate nodes based on local information. As a result, both the collect-en-route and report-en-route programs have a **linear time complexity**. The difference between them is that in collect-en-route all the information arrives to the source together, while in report-en-route partial results...

5/5,K/3 (Item 3 from file: 348)  
DIALOG(R) File 348:EUROPEAN PATENTS  
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00940611

**Determinization and minimization for speech recognition**

**Bestimmung und Minimalisierung der Spracherkennung**

**Determination et minimalisation pour la reconnaissance vocale**

PATENT ASSIGNEE:

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LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 854468 A2 980722 (Basic)  
EP 854468 A3 981230

APPLICATION (CC, No, Date): EP 98300140 980109;

PRIORITY (CC, No, Date): US 781368 970121

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G10L-005/04; G10L-007/08; G10L-009/06;  
G10L-009/18; G06K-009/03; G06K-009/66;

ABSTRACT EP 854468 A2

A pattern recognition system and method for optimal reduction of redundancy and size of a weighted and labeled graph presents receiving speech signals, converting the speech signals into word sequences, interpreting the word sequences in a graph where the graph is labeled with word sequences and weighted with probabilities and determinizing the graph by removing redundant word sequences. The size of the graph can also be minimized by collapsing some nodes of the graph in a reverse determinizing manner. The graph can further be tested for determinizability to determine if the graph can be determinized. The resulting word sequence in the graph may be shown in a display device so that recognition of speech signals can be demonstrated.

ABSTRACT WORD COUNT: 119

LEGAL STATUS (Type, Pub Date, Kind, Text):

Examination: 011114 A2 Date of dispatch of the first examination  
report: 20010928

Application: 980722 A2 Published application (A1with Search Report  
;A2without Search Report)

Change: 030312 A2 Title of invention (French) changed: 20030121

Change: 030312 A2 Title of invention (English) changed: 20030121

Change: 030312 A2 Title of invention (German) changed: 20030121

Change: 030312 A2 International Patent Classification changed:  
20030121

Change: 021211 A2 International Patent Classification changed:  
20021021  
Change: 021211 A2 Title of invention (German) changed: 20021021  
Change: 021211 A2 Title of invention (English) changed: 20021021  
Change: 021211 A2 Title of invention (French) changed: 20021021  
Search Report: 981230 A3 Separate publication of the European or  
International search report  
Change: 981230 A2 International patent classification (change)  
Change: 981230 A2 Obligatory supplementary classification  
(change)  
Examination: 990331 A2 Date of filing of request for examination:  
990129

LANGUAGE (Publication,Procedural,Application): English; English; English  
FULLTEXT AVAILABILITY:

| Available Text                     | Language  | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A                           | (English) | 9830   | 514        |
| SPEC A                             | (English) | 9830   | 9593       |
| Total word count - document A      |           |        | 10107      |
| Total word count - document B      |           |        | 0          |
| Total word count - documents A + B |           |        | 10107      |

...SPECIFICATION article by Ahuja. Faster algorithm for the shortest path problems.

Also, in case the transducer is acyclic, one can use a specific minimization algorithm with **linear time complexity**. Therefore, the overall complexity of the minimization algorithm for a subsequential transducer is  $O((V) + (E))$  in case T is acyclic and  $O((E) \log \dots)$

5/5,K/4 (Item 4 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
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00649839

**Method and apparatus for convex interpolation for color calibration.**  
**Verfahren und Vorrichtung zur konvexen Interpolation beim Farbeichen.**  
**Procede et appareil d'interpolation convexe pour la calibration de couleurs.**

PATENT ASSIGNEE:

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LEGAL REPRESENTATIVE:

Jones, Alan John et al (32391), CARPMAELS & RANSFORD 43 Bloomsbury Square  
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PATENT (CC, No, Kind, Date): EP 626782 A2 941130 (Basic)  
EP 626782 A3 941207

APPLICATION (CC, No, Date): EP 94420150 940525;

PRIORITY (CC, No, Date): US 68823 930528

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: H04N-001/46;

ABSTRACT EP 626782 A2

A convex interpolation apparatus and method to map source color signals  
in a n-dimensional color space to target color signals in a m-dimensional



color space includes finding a set of sample signals in the source color space whose convex hull encloses the given signal; determining the coefficients needed to express the given signal as a convex combination of the set of sample signals; and interpolating the source signal to obtain a target signal in the target color space by using the coefficients and the sample signals in the target color space that correspond to the sample signals selected in the source color space. The sample signals in both color spaces can be lattice points or non-lattice points. A method and apparatus are also provided which can not only determine if a point is enclosed by a convex hull of a set of points in a n-dimensional space, but also simultaneously derive the coefficients needed to express the given point as a convex combination of the set of points. (see image in original document)

ABSTRACT WORD COUNT: 175

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 941130 A2 Published application (A1with Search Report ;A2without Search Report)  
 Search Report: 941207 A3 Separate publication of the European or International search report  
 Examination: 950712 A2 Date of filing of request for examination: 950516  
 Change: 950823 A2 Representative (change)  
 Examination: 970723 A2 Date of despatch of first examination report: 970606  
 Withdrawal: 980408 A2 Date on which the European patent application was deemed to be withdrawn: 971017

LANGUAGE (Publication,Procedural,Application): English; English; English  
 FULLTEXT AVAILABILITY:

| Available Text                     | Language  | Update | Word Count |
|------------------------------------|-----------|--------|------------|
| CLAIMS A                           | (English) | EPABF2 | 598        |
| SPEC A                             | (English) | EPABF2 | 5385       |
| Total word count - document A      |           |        | 5983       |
| Total word count - document B      |           |        | 0          |
| Total word count - documents A + B |           |        | 5983       |

...SPECIFICATION properties. First, it is applicable to any finite dimensional case. Secondly, it is easy to implement. Thirdly, it is efficient since algorithms with the expected **linear time complexity** are available for solving linear programming problems.

The above discussed procedure is illustrated in flowchart form in Figures 6 and 7. The first step 80...

5/5,K/5 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00765103

**CIRCUIT SIMULATION USING DYNAMIC PARTITIONING AND ON-DEMAND EVALUATION  
 SIMULATION DE CIRCUIT DANS LAQUELLE LA SEGMENTATION DYNAMIQUE ET  
 L'EVALUATION SUR DEMANDE SONT UTILISEES**

Patent Applicant/Assignee:

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Inventor(s):

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Legal Representative:

AUYEUNG Aloysius T C, Blakely, Sokoloff, Taylor & Zafman, 7th floor, 12400 Wilshire Boulevard, Los Angeles, CA 90025-1026, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200077693 A1 20001221 (WO 0077693)

Application: WO 2000US11508 20000428 (PCT/WO US0011508)

Priority Application: US 99333124 19990614

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE  
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC  
LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK  
SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-017/50

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 8732

#### English Abstract

An EDA tool is provided with a circuit simulator that simulates circuit operation using dynamic partitioning and on-demand evaluation. The circuit simulator includes a static partitioner, a dynamic partitioner and an evaluation scheduler. The static partitioner pre-forms a number of static partitions for the circuit. During simulation, the dynamic partitioner forms and re-forms a number of dynamic partitions referencing the static partitions. At each simulation time step, the evaluation scheduler determines which, if any, of the dynamic partitions have to be evaluated, and evaluating on-demand only those where evaluations are necessary. In one embodiment, when evaluations are performed, they are performed through matrix solution when accuracy is needed.

#### French Abstract

Un outil EDA est dote d'un simulateur de circuit qui simule le fonctionnement du circuit par segmentation dynamique et evaluation sur demande. Le simulateur de circuit comporte une unite de segmentation statique, une unite de segmentation dynamique et un programmeur d'evaluation. L'unite de segmentation statique preforme plusieurs segments statiques pour le circuit. Pendant la simulation, l'unite de segmentation dynamique forme et reforme plusieurs segments dynamiques, segment statique par segment statique. A chaque etape de simulation, le programmeur d'evaluation determine le segment dynamique a evaluer, s'il existe, et evalue sur demande seulement ceux pour lesquels des evaluations sont necessaires. Dans un mode de realisation, lorsque des evaluations sont effectuees, elles le sont par une solution matricielle lorsque de la precision est necessaire

Legal Status (Type, Date, Text)

Publication 20001221 A1 With international search report.

Examination 20010607 Request for preliminary examination prior to end of  
19th month from priority date

Fulltext Availability:

Detailed Description

#### Detailed Description

... solution of the linear algebraic equations. This solution requires solving a matrix

3)

which has the time complexity of  $O(N)$ . Due to this super-linear time complexity of the algorithm in circuit simulators like SPICE, they are incapable of solving large circuits. Usually the limits of such simulators are reached when circuit...

...15, No. 1 1 , November 1996. These algorithms are characterized by a linear  $O(N)$  time complexity, thereby allowing them to handle large circuits.

The linear time complexity in these algorithms is achieved by partitioning the circuit into small partitions. To avoid the super-linear time of matrix solution, these algorithms use an...

5/5,K/6 (Item 2 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00764268 \*\*Image available\*\*

ADAPTIVE INTEGRATED CIRCUIT DESIGN SIMULATION TRANSISTOR MODELING AND EVALUATION

MODELISATION ET EVALUATION DE TRANSISTORS PAR SIMULATION ADAPTATIVE DE CONCEPTS DE CIRCUITS INTEGRES

Patent Applicant/Assignee:

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Inventor(s):

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Legal Representative:

AUYEUNG Aloysius T C, Blakely, Sokoloff, Taylor & Zafman, 7th floor, 12400 Wilshire Boulevard, Los Angeles, CA 90025-1026, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200077695 A1 20001221 (WO 0077695)

Application: WO 2000US8154 20000328 (PCT/WO US0008154)

Priority Application: US 99333122 19990614

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-017/50

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 6298

English Abstract

An IC design computer simulation tool is provided with a design reader equipped to assign device characterizations to electronic devices of an IC design, and model evaluators equipped to adaptively perform model evaluations in accordance with the electronic devices' assigned device characterizations. In one embodiment, the electronic devices include transistors, and the adaptive model evaluations provide evaluated model quantities to support solution of the circuit node voltages using fully coupled (implicit) or partially decoupled (explicit) solution techniques. In particular, the transistor capacitive coupling currents are expressed according to the assigned device characterizations.

French Abstract

L'invention porte sur un outil de simulation par ordinateur d'un concept

de CI comportant un lecteur de concept equipe pour attribuer des caracteristiques de conception aux elements electroniques du concept de CI, et des evaluateurs de modele equipes pour effectuer adaptativement des evaluations de modeles en accord avec les caracteristiques de conception attribuees au concept de CI. Dans l'une des executions, les elements electroniques comprennent des transistors, et les evaluations adaptatives des modeles offrent plusieurs modeles evalues pour aider a resoudre les noeuds de tension du circuit au moyen de techniques a solutions a couplage total (implicite) ou a decouplage (explicite). Les courants de couplage capacitif des transistors sont en particulier exprimees en fonction des caracteristiques attribuees a l'element electronique.

Legal Status (Type, Date, Text)

Publication 20001221 A1 With international search report.

Examination 20010329 Request for preliminary examination prior to end of 19th month from priority date

Fulltext Availability:

Detailed Description

Detailed Description

... solution of the linear algebraic equations. This solution requires solving a matrix which has the time complexity of  $O(N^3)$  - Due to this super-linear time complexity of the algorithm in circuit simulators like SPICE, they are incapable of solving large circuits. Usually the limits of such simulators are reached when circuit...

...15, No. 11, November 1996. These algorithms are characterized by a linear  $O(N)$  time complexity, thereby allowing them to handle large circuits.

The linear time complexity in these algorithms is achieved by partitioning the circuit into small partitions. To avoid the super-linear time of matrix solution, these algorithms use an...

5/5,K/7 (Item 3 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00193708 \*\*Image available\*\*

METHOD AND APPARATUS FOR PROVIDING MAXIMUM RATE MODULATION OR COMPRESSION  
ENCODING AND DECODING

PROCEDE ET APPAREIL PERMETTANT D'OBTENIR UN CODAGE ET UN DECODAGE PAR  
MODULATION OU PAR COMPRESSION AVEC UNE CADENCE MAXIMALE

Patent Applicant/Assignee:

RESEARCH CORPORATION TECHNOLOGIES INC,

Inventor(s):

FITINGOF Boris,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9111058 A1 19910725

Application: WO 91US31 19910109 (PCT/WO US9100031)

Priority Application: US 90257 19900112

Designated States: AT AU BE CA CH DE DK ES FR GB GR IT JP LU NL SE

Main International Patent Class: H03M-007/46

International Patent Class: H03M-07:40

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 15666

#### English Abstract

A method and apparatus is disclosed for providing modulation or compression encoding and decoding. A decoder effectuates a direct enumeration algorithm to accomplish a mapping and includes a ROM (1204) for receiving a signal representing each bit and the number of bits that have been processed and producing a signal representing an element in an array of numbers held in the ROM. An adder (1102) receives the output from the ROM and each bit of the codework. A storage register (1104) stores the output of the adder and the output of the register is connected to the inputs of the adder. Logic AND gates (1106-1108) receive the output of the adder and the signal representing the number of bits processed and output the decoded codeword. An encoder which shares a common part with the decoder effectuates an inverse enumeration algorithm to accomplish an inverse mapping.

#### French Abstract

L'invention se rapporte a un procede et a un appareil de codage et de decodage par modulation ou par compression, dans lesquels un decodeur effectue un algorithme d'enumeration directe pour produire une topographie et contient une memoire morte (ROM) (1204) destinee a recevoir un signal representant chaque bit et le nombre de bits qui ont ete traites et produisant un signal representant un element dans un reseau matriciel de nombres contenu dans la memoire ROM. Un additionneur (1102) recoit la sortie provenant de la memoire ROM et chaque bit du mot de code. Un registre de stockage (1104) stocke la sortie de l'additionneur et la sortie du registre est connectee aux entrees de l'additionneur. Des portes ET logique (1106-1108) recoivent la sortie de l'additionneur et le signal representant le nombre de bits traites et sortent le mot de code decode. Un codeur, qui partage une partie commune avec le decodeur, effectue un algorithme d'enumeration inverse pour produire une topographie inverse.

#### Fulltext Availability:

Detailed Description

#### Detailed Description

... without multiplications or divisions, and that only memory space for storage of a small number of integers is required. Furthermore, the invention operates with only **linear time complexity** and only linear memory complexity with respect to the length of codewords.

The first of these two algorithms, which is described later, is called the...

File 275:Gale Group Computer DB(TM) 1983-2003/Mar 21  
(c) 2003 The Gale Group  
File 621:Gale Group New Prod.Annou.(R) 1985-2003/Mar 21  
(c) 2003 The Gale Group  
File 636:Gale Group Newsletter DB(TM) 1987-2003/Mar 21  
(c) 2003 The Gale Group  
File 16:Gale Group PROMT(R) 1990-2003/Mar 21  
(c) 2003 The Gale Group  
File 160:Gale Group PROMT(R) 1972-1989  
(c) 1999 The Gale Group  
File 148:Gale Group Trade & Industry DB 1976-2003/Mar 21  
(c)2003 The Gale Group  
File 624:McGraw-Hill Publications 1985-2003/Mar 21  
(c) 2003 McGraw-Hill Co. Inc  
File 15:ABI/Inform(R) 1971-2003/Mar 24  
(c) 2003 ProQuest Info&Learning  
File 647:CMP Computer Fulltext 1988-2003/Mar W1  
(c) 2003 CMP Media, LLC  
File 674:Computer News Fulltext 1989-2003/Mar W2  
(c) 2003 IDG Communications  
File 696:DIALOG Telecom. Newsletters 1995-2003/Mar 24  
(c) 2003 The Dialog Corp.  
File 369:New Scientist 1994-2003/Mar W2  
(c) 2003 Reed Business Information Ltd.  
File 112:UBM Industry News 1998-2003/Mar 24  
(c) 2003 United Business Media  
? ds

| Set | Items   | Description   |
|-----|---------|---|
| S1  | 99089   | (HYPERTEXT? OR HTML OR HYPERMEDIA OR HYPERLINK??) (5N) (DOCUMENT? ? OR PAGE? ? OR FILE? ? OR RECORD? ? OR DATA OR INFORMATION OR CONTENT OR SITE? ?)  |
| S2  | 3110591 | WEBPAGE? ? OR WEBSITE? ? OR (WEB OR INTERNET OR ONLINE OR - ON())LINE OR NETWORK? ? OR DISTRIBUTED) (2N) (PAGE? ? OR SITE? ?)   |
| S3  | 104257  | S1:S2 (5N) (CATEGOR??? OR GROUP??? OR SET? ? OR CLUSTER? OR - COLLECTION? ? OR FAMILY OR CLASS OR CLASSES OR BUNCH???)  |
| S4  | 1314992 | (DOCUMENT? ? OR PAGE? ? OR FILE? ? OR RECORD? ? OR DATA OR INFORMATION OR CONTENT OR SITE? ? OR PAGE? ? OR SITE? ?) (5N) (- CATEGOR??? OR GROUP??? OR SET? ? OR CLUSTER? OR COLLECTION? ? OR FAMILY OR FAMILIES OR CLASS OR CLASSES OR BUNCH??) |
| S5  | 13      | LINEAR()TIME()COMPLEXIT???  |
| S6  | 11      | RD (unique items)   |
| S7  | 154725  | S1:S2(S)S4  |
| S8  | 38      | (S3 OR S7) (S)SIMILAR?(S)WEIGHT????   |
| S9  | 28      | RD (unique items)   |
| S10 | 21      | S9 NOT PD>20001018  |
| S11 | 156559  | (WEIGHT? OR SCOR??? OR INFLUENC??? OR IMPORTANCE OR SIGNIFIC? OR PRIORIT??? OR RELEVAN? OR GRAD??? OR RATING) (5N) (DOCUMENT? ? OR PAGE? ? OR FILE? ? OR RECORD? ? OR PAGE? ? OR SITE? ?)   |
| S12 | 397713  | (DOCUMENT? ? OR PAGE? ? OR FILE? ? OR RECORD? ? OR DATA OR INFORMATION OR CONTENT OR SITE? ? OR PAGE? ? OR SITE? ?) (5N) (- SAME OR SIMILAR? OR IDENTICAL? OR EQUIVALENT OR MATCHING OR ANALOGOUS OR COMPARABLE)                                |
| S13 | 73      | (S3 OR S7) (S)S11(S)S12   |
| S14 | 60      | RD (unique items)   |
| S15 | 40      | S14 NOT (PD>20001018 OR S6 OR S10)  |

6/3,K/1 (Item 1 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
(c) 2003 The Gale Group. All rts. reserv.

01697424 SUPPLIER NUMBER: 15592715 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**DAC focuses on synthesis and ESDA tool advances. (Design Automation  
Conference; electronic system design automation) (includes related  
articles)**  
Maliniak, Lisa  
Electronic Design, v42, n11, p51(10)  
May 30, 1994  
ISSN: 0013-4872 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 7248 LINE COUNT: 00606

... method for finding a set of values that locate faults on a specific path. One exciting prospect of this approach is that it has a **linear time complexity**, as opposed to well-known alternatives that exhibit worst-case quadratic time complexity. In other words, as design complexity grows, computational requirements for this approach...

6/3,K/2 (Item 2 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
(c) 2003 The Gale Group. All rts. reserv.

01575216 SUPPLIER NUMBER: 13747672  
**Delaunay triangulation using a uniform grid.**  
Tsung-Pao Fang; Piegl, Les A.  
IEEE Computer Graphics and Applications, v13, n3, p36(12)  
May, 1993  
ISSN: 0272-1716 LANGUAGE: ENGLISH RECORD TYPE: ABSTRACT

...ABSTRACT: previous triangles. The algorithm can eliminate points from the internal data structure to find points to form triangles more quickly. The algorithm also has a **linear time complexity**.

6/3,K/3 (Item 3 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
(c) 2003 The Gale Group. All rts. reserv.

01511087 SUPPLIER NUMBER: 11744452 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Practical minimal perfect hash functions for large databases. (time and  
space saving program development techniques) (Technical)**  
Fox, Edward A.; Heath, Lenwood S.; Chen, Qi Fan; Daoud, Amjad M.  
Communications of the ACM, v35, n1, p105(17)  
Jan, 1992  
DOCUMENT TYPE: Technical ISSN: 0001-0782 LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 10935 LINE COUNT: 00860

... the Searching step. This time can be decreased dramatically by a modest increase in the bits/key values (see Figure 10).

Figure 9 illustrates the **linear time complexity**, giving total time (generally dominated by Searching) for various set sizes. figure 10 illustrates that few bits/key are required, regardless of set size, but...

6/3,K/4 (Item 4 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)

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01490662 SUPPLIER NUMBER: 11872763

**Parallel programming with data structures and higher order functions.  
(Technical)**

MaaBen, Andreas

Science of Computer Programming, v18, n1, p1(38)

Jan, 1992

DOCUMENT TYPE: Technical

ISSN: 0167-6423

LANGUAGE: ENGLISH

RECORD TYPE: ABSTRACT

...ABSTRACT: and the major complexity result is that under parallel evaluation, many functions on our data structures need only logarithmic time, whereas using lists results in **linear time complexity**.  
(Reprinted by permission of the publisher.)

6/3,K/5 (Item 5 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01323381 SUPPLIER NUMBER: 08324968

**New algorithms based on a multiple storage quadtree for hierarchical  
compaction of VLSI mask layout. (technical)**

Hsiao, P-Y; Feng, W-S

Computer-Aided Design, v22, n2, p74(7)

March, 1990

DOCUMENT TYPE: technical

ISSN: 0010-4485

LANGUAGE: ENGLISH

RECORD TYPE: ABSTRACT

...ABSTRACT: tolerance, mixed constraint, grid freeness, and hierarchical design and amalgamation, are described. Experimental results show that the proposed system successfully accomplishes layout compaction with almost **linear time complexity** in terms of the rectangles in the source layout. (Reprinted by permission of the publisher.)

6/3,K/6 (Item 1 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

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03088568 SUPPLIER NUMBER: 06043212

**An efficient geometric solution to the minimum spanning circle problem.**

Oommen, B. John

Operations Research, v35, n1, p80(7)

Jan-Feb, 1987

ISSN: 0030-364X

LANGUAGE: ENGLISH

RECORD TYPE: ABSTRACT

...ABSTRACT: that entailed digitized and random data resulted in the technique converging in precisely two iterations. It is suggested that this purely geometric algorithm has a **linear time complexity**.

6/3,K/7 (Item 1 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)

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02058416 59280140

**An optimal algorithm for solving the 1-median problem on weighted 4-cactus graphs**



Lan, Yu-Feng; Wang, Yue-Li  
European Journal of Operational Research v122n3 PP: 602-610 May 1, 2000  
ISSN: 0377-2217 JRNL CODE: EJO

...ABSTRACT: problem can be solved just as efficiently on W4C graphs as on trees. Many examples are provided demonstrating the rudiments of the algorithm and a **linear time complexity** algorithm is developed.

6/3,K/8 (Item 2 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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00561103 91-35458

**A Linear-Time Approximation Method for Computing the Reliability of a Network**

Belovich, Steve G.; Konangi, Vijaya K.  
Computer Networks & ISDN Systems v21n2 PP: 121-127 Apr 1991  
ISSN: 0376-5075 JRNL CODE: CNI

...ABSTRACT: provides upper and lower bounds for the source-to-terminal reliability of an arbitrary network. A unique feature of the algorithm is that it possesses **linear time - complexity** when the maximum indegree of all network nodes is limited. ...

6/3,K/9 (Item 3 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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00492093 90-17850

**A Note on Locating a Central Vertex of a 3-Cactus Graph**

Kincaid, Rex K.; Maimon, Oded Z.  
Computers & Operations Research v17n3 PP: 315-320 1990  
ISSN: 0305-0548 JRNL CODE: CRO

...ABSTRACT: This was accomplished by converting the original 3-cactus graph into a tree. The behavior of median and variance measures under this transformation were studied. **Linear time complexity** algorithms were developed for the minimum weighted vertex variance problem and for the vertex restricted stochastic queue median. ...

6/3,K/10 (Item 4 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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00267765 85-08198

**Complexity, Convexity, and Unimodality**

Toussaint, Godfried T.  
International Journal of Computer & Information Sciences v13n3 PP: 197-217 Jun 1984  
ISSN: 0091-7036 JRNL CODE: IJC

...ABSTRACT: for solving various problems that arise in computational geometry and pattern recognition. Furthermore, these algorithms show that convexity is not the key factor in obtaining **linear - time - complexity** for solving these problems. ...

6/3,K/11 (Item 5 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
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00216604 83-28165

**The Design of a Resource Allocation Scheme for Microcode Generation**

Ma, Richard Perng-yi; Lewis, T. G.

Microprocessing & Microprogramming v11n5 PP: 277-286 May 1983

ISSN: 0165-6074 JRNL CODE: EUJ

...ABSTRACT: determine which variable to move out of the register. Experiments were conducted on the replacement priority table and the register allocation scheme. System portability and linear time complexity were found to be 2 important features of the resource allocation scheme.